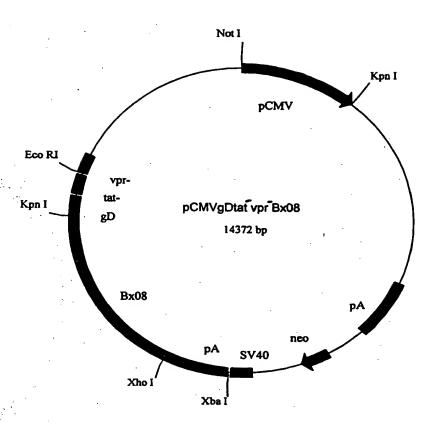
Figure 1 Plasmid pCMV.Bx08.gp160



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Figure 2 DNA immunization plasmid pCMV3Bx08.

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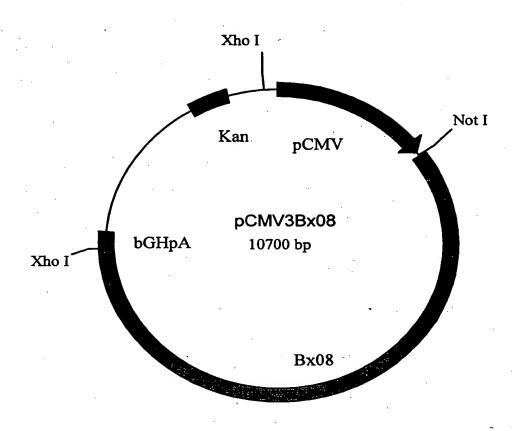


Figure 3. Pseudovirion Expression Plasmid p133B1 HIV-1 Bx08

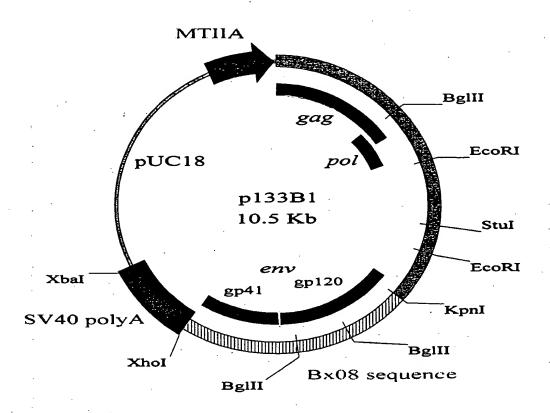
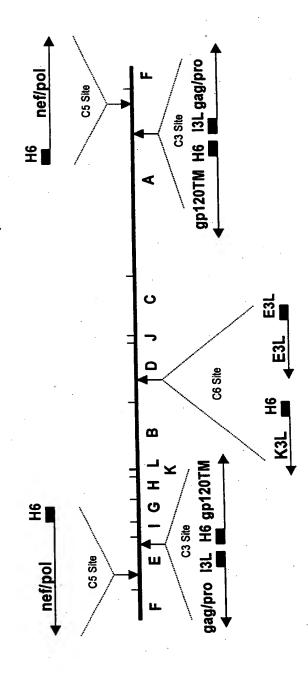
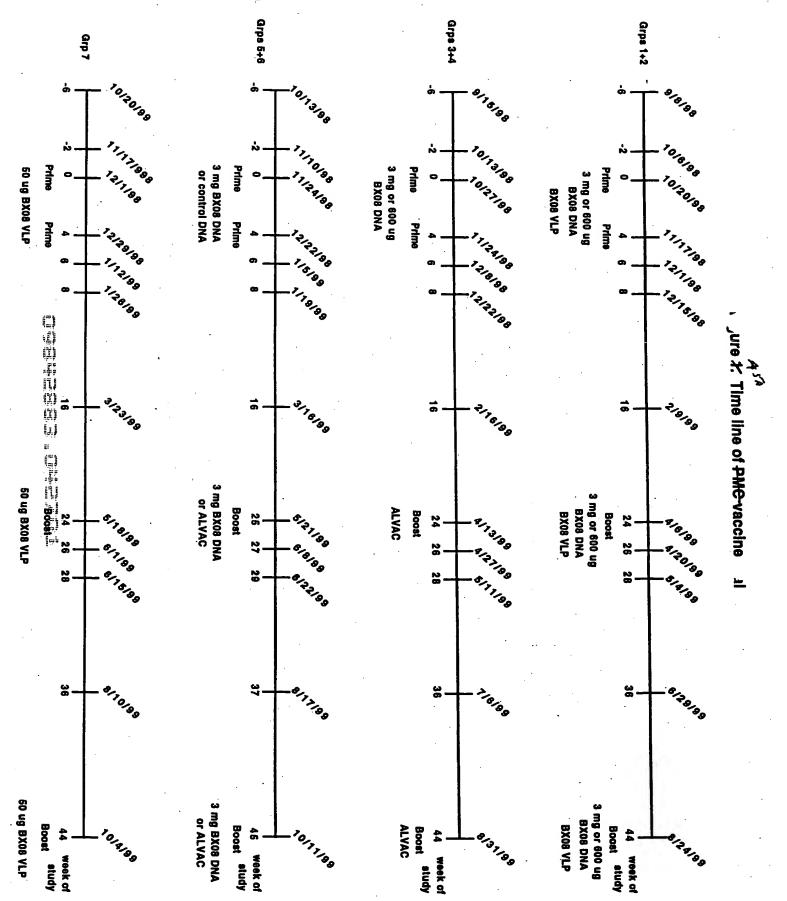


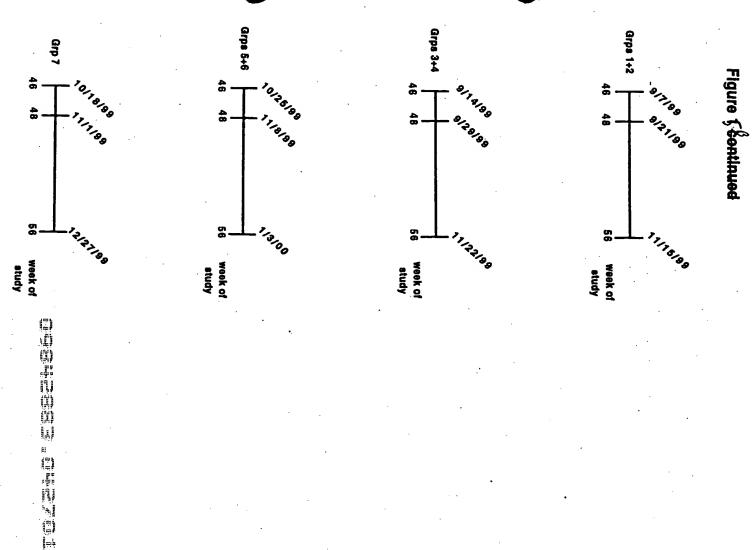
FIGURE 4

ALVAC(2)120(BX08)GNP (vCP1579)

(ALVAC Xhol Restriction Map)

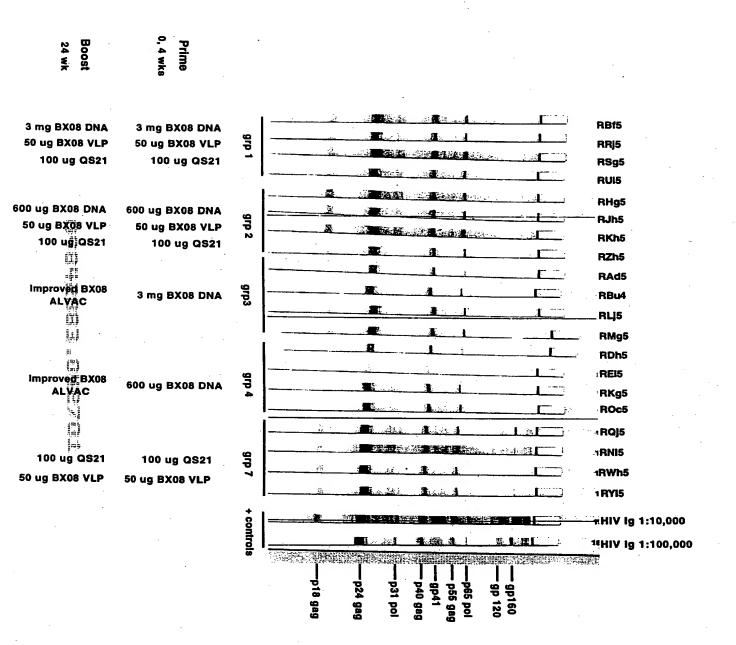


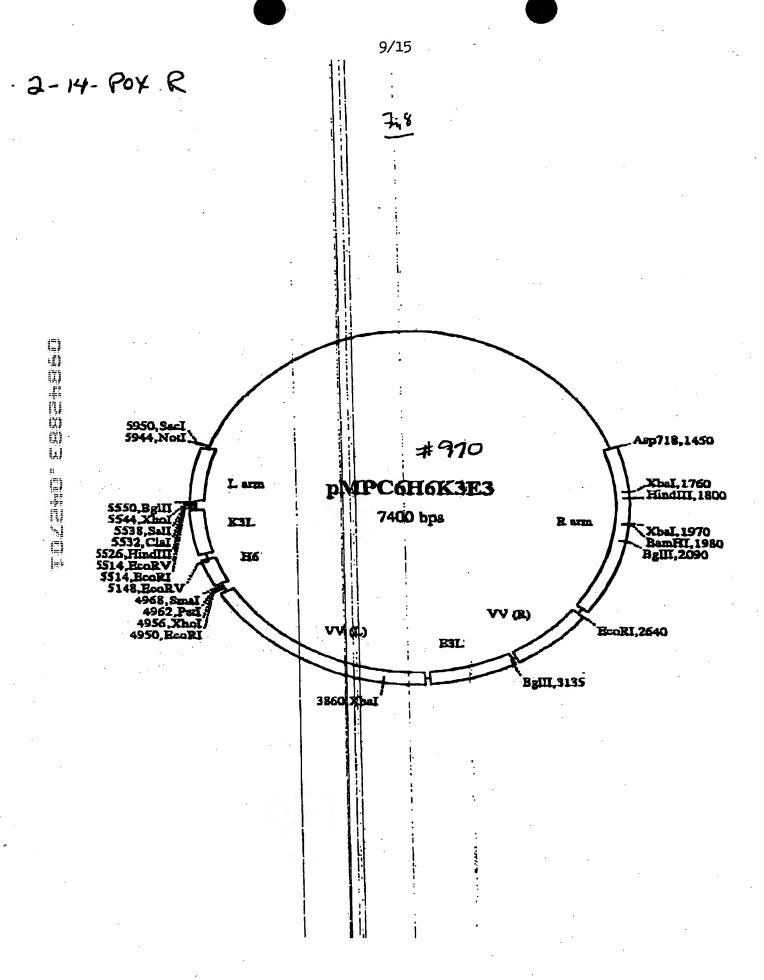




ROKS RSK6 RSG5 RHb5 RNC5 RHb5 RVc5 RFc5 RFc5 RSG5 RNA4 ROK5 RRHb5 RVc5 RFc5 RFc5 RSG5 RRHb5 RVc5 RFc5 RFc5 RSG5 RRHb5 RVc5 RFc5 RSG5 RRHb5 RVc5 RFc5 RSG5 RRHb5 RFc5 RFc5 RSG5 RRhb5 RRVc5 RFc5 RRJc5 RRNs RRNs RRNs RRNs RRNs RRNs RRNs RRN	Boost 24 wk	Prime 0, 4 wks		9p160 — 9p120 — 9p55 pol — 9p40 gag — 9p41 — 9p1 pol — 9p1 pol — 9p1 pol gag — 9p1 gag	HIV+ control
No ug BX08 DNA 600 ug BX08 DNA 50 ug BX08 VLP 50 ug BX08 VLP 50 ug BX08 VLP 50 ug BX08 VLP 50 ug BX08 DNA 50 ug BX08 VLP 50	3 mg BX08 DNA	3 mg BX08 DNA	_		RBf5
No ug BX08 DNA 600 ug BX08 DNA 50 ug BX08 VLP 50 ug BX08 VLP 50 ug BX08 VLP 50 ug BX08 VLP 50 ug BX08 DNA 50 ug BX08 VLP 50	50 ug BX08 VLP	50 ug BX08 VLP	d.	THE PARTY OF THE P	RRI5
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50 ug BX08 VLP 100 ug QS21 100 ug BX08 DNA TRIS RAd5 RBu4 RBu4 RLI5 RMg5 RMg5 ALVAC REI5 RRG5 ALVAC 1 RRG5 ROC5 ROC5 ROC5 RHb5 RHb5 RVC6 RHb5 RVC6 RHb5 RVC6 RHb5 RVC6 RHb5 RVC6 RHb5 RVC6 RRC6 RRC6 RRC6 RRC6 RRC6 RRC6 RRC6	600 ug BYOS DNA	600 ug BY09 DNA		THE RESERVE OF THE STATE OF THE	RHg5
100 ug QS21 100 ug QS21 700 ug QS21 700 ug QS21 700 ug QS21 100 ug QS21 700 ug			976	The state of the s	-RJh5
Improved BX08 ALVAC 3 mg BX08 DNA 3 mg BX08 DNA 4 RBLM RRIS RRIS RRIS RRIS RKgS RKgS RKGS RKGS RKGS RKGS RKGS RKGS RKGS RKG	-		2	Control of	RKh5
Improved BX08 ALVAC 3 mg BX08 DNA 4 P P P P P P P P P P P P P P P P P P				444 Ch 1,550 H. A. Ch	RZh5
ALVAC 3 mg BX08 DNA TRUS RMg5 RMg5 RMg5 RKg5 RKg5 RKg5 RC0c5 RKg5 RC0c5 RKg6 RC0c5 RKg6 RC0c5 RKg6 RC0c5 RKg6 RC0c5 RC0c5 RHb5 RF-c5	Improved BY09				
Improved BX08 ALVAC 600 ug BX08 DNA REIS RKg5 RKg5 RKg5 RC65 RC65 RC65 RS66 RG95 RHb5 RHb5 RVC5 RF65 RF65 RF65 RF65 RF65 RF65 RF65 RF6		3 mg BX08 DNA	grþ		
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ROKS 3 mg BX08 DNA 3 mg BX08 DNA 75 Improved BX08 ALVAC Control DNA ROKS RSKS RRGg5 RHb5 RVc5 RFc5 RFc5 RNa4 100 ug QS21 100 ug QS21 50 ug BX08 VLP 50 ug BX08 VLP RYIS				The state of the s	
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Improved BX08 ALVAC Control DNA RFc5 RFc5 RRb5 RRc5 RRc5 RRc5 RRc5 RRc5 RRc5 RR		3 ma BYOS DNA	97		
Improved BX08 ALVAC Control DNA RPC5 RRC5 RRC5 RRC5 RRN64 RRN64 RRN65 RR	·	· mg DX00 DIVA	S		•
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SO dg BXU8 VLP RYIS N	100 ug QS21		Ď7		
	an na BX08 AFb	50 ug BX08 VLP			
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					Neg. control

69 6 Figure 2. 26 wk macaque ⊔m immunoreactivity to HIV an′ ∋ns (1:100 diln)





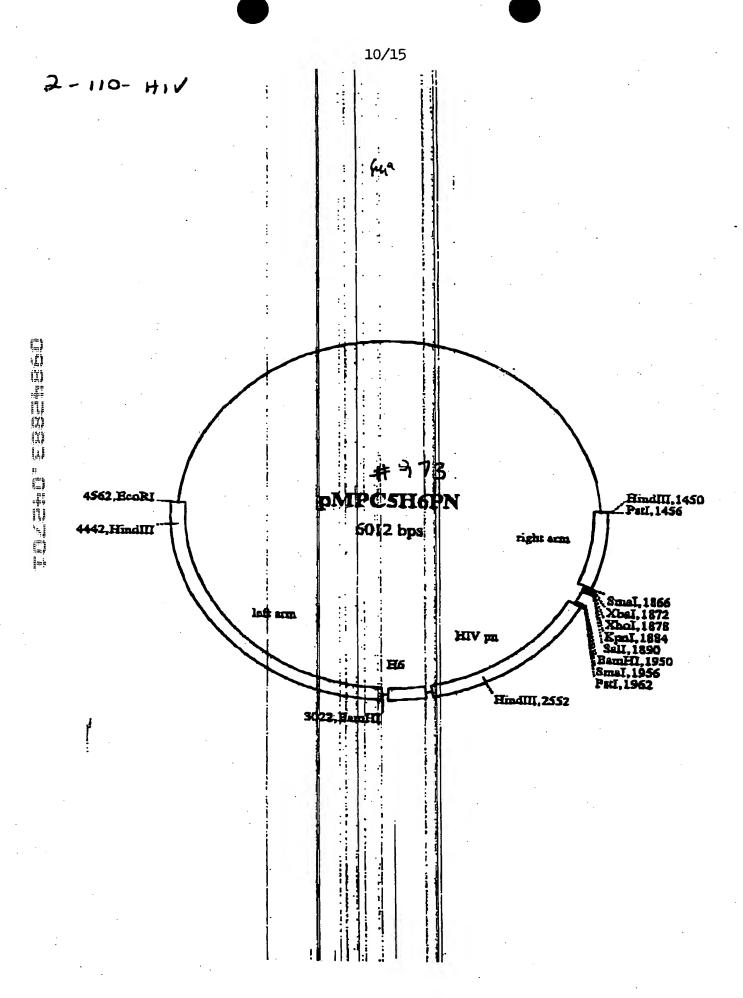
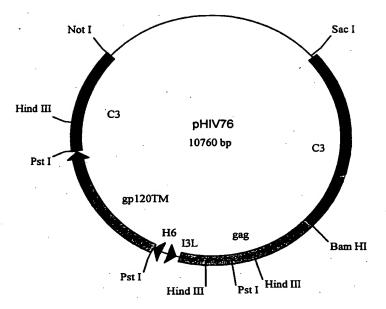


Figure 10 Plasmid pHIV76



12/15

Figure 11 vCP1579: H6/HIV Pol/Nef epitope cassette in ALVAC C5 site

1	TTTTTTTCAT	TATTTAGAAA	TTATGCATTT	TAGATCTTTA	TAAGCGGCCG	TGATTAACTA
61	GTCATAAAAA	CCCGGGATCG	ATTCTAGACT	CGAGGGTACC	GGATCTTAAT	TAATTAGTCA
121	TCAGGCAGGG	CGAGAACGAG	ACTATCTGCT	CGTTAATTAA	TTAGGTCGAC	GGATCCCCCA
181	ACAAAAACTA	ATCAGCTATC	GGGGTTAATT	AATTAGTTAT	TAGACAAGGT	GAAAACGAAA
241	CTATTTGTAG	CTTAATTAAT	TAGAGCTTCT	TTATTCTATA	CTTAAAAAGT	GAAAATAAAT
301	ACAAAGGTTC	TTGAGGGTTG	TGTTAAATTG	AAAGCGAGAA	ATAATCATAA	ATTATTTCAT
361	TATCGCGATA	TCCGTTAAGT	TTGTATCGTA	ATGCCACTAA	CAGAAGAAGC	AGAGCTAGAA
421	CTGGCAGAAA	ACAGAGAGAT	TCTAAAAGAA	CCAGTACATG	GAGTGTATTA	TGACCCATCA
481	AAAGACTTAA	TAGCAGAAAT	ACAGAAGCAG	GGGCAAGGCC	AATGGACATA	TCAAATTTAT
541	CAAGAGCCAT	TTAAAAATCT	GAAAACAGGA	ATGGAGTGGA	GATTTGATTC	TAGATTAGCA
601	TTTCATCACG	TAGCTAGAGA	ATTACATCCT	GAATATTTTA	AAAATTGTAT	GGCAATATTC
661	CAAAGTAGCA	TGACAAAAAT	CTTAGAGCCT	TTTAGAAAAC	AAAATCCAGA	CATAGTTATC
721	TATCAATACA	TGGATGATTT	GTATGTAGGA	TCTGACTTAG	AAATAGGGCA	GCATAGAACA
781	AAAATAGAGG	AGCTGAGACA	ACATCTGTTG	AGGTGGGGAC	TTACAACCAT	GGTAGGTTTT
841	CCAGTAACAC	CTCAAGTACC	TTTAAGACCA	ATGACTTACA	AAGCAGCTGT	AGATCTTTCT
901	CACTTTTTAA	AAGAAAAAGG	AGGTTTAGAA	GGGCTAATTC	ATTCTCAACG	AAGACAAGAT
961	ATTCTTGATT	TGTGGATTTA	TCATACACAA	GGATATTTTC	CTGATTGGCA	GAATTACACA
1021	CCAGGACCAG	GAGTCAGATA	CCCATTAACC	TTTGGTTGGT	GCTACAAGCT	AGTACCAATG
1081	ATTGAGACTG	TACCAGTAAA	ATTAAAGCCA	GGAATGGATG	GCCCAAAAGT	TAAACAATGG
1141	CCATTGACAG	AAGAAAAAT	AAAAGCATTA	GTAGAAATTT	GTACAGAGAT	GGAAAAGGAA
1201	GGGAAAATTT	CAAAAATTGG	GCCTTAATTT	TTCTGCAGCC	CGGGGGATCC	TTTTTATAGC
1261	TAATTAGTCA	CGTACCTTTG	AGAGTACCAC	TTCAGCTACC	TCTTTTGTGT	CTCAGAGTAA
1321	CTTTCTTTAA	TCAATTCCAA	AACAG			4

Upstream (right) flanking sequence: 1-266 VV H6 promoter: 267-390

HIV pol/nef/pol/nef/pol cassette: 391-1227

Downstream (left) flanking sequence: 1227-1345

Figure 12 E3L and K3L genes in C6

. 10 2	0 30	40 5	60	70	80	90	100,	110
GAGCTCGCCG CCGCCTATC								
CTCGAGCGCC GGCGGATAG	TTTCAGAATT ACT	CAATCCA CATCTATCA	r atctataatg	ATGITTCCAT	AAGTATAAAG	GATAGTTAAG	ATTTCATCTA	CTATAATTAT
120 13	140	150 16	170	180	190	200	210	220
ACTCAAAGAT GATGATAGT. TGAGTTTCTA CTACTATCA								
230 24	•	260 27		290	300	310	. 320	330
AATCTCACTA AAAAGATAGG TTAGAGTGAT TITTCTATC								
340 35	. 360	370 38	0 390	400	410	. 420	430	440
ATTTAACATA AGTACAATA			• • •			• •	• •	
TARATTGTAT TCATGTTAT								
450 466	470	480	490	500	51	.0	520	530
TGATATCGAA TTCATAAAA								
ACTATAGCTT AAGTATTTT	<q h<="" td=""><td>GA TGT GTA GGA AA R C M R K</td><td>Y N V</td><td>DI</td><td>r G K</td><td>TYD</td><td>V R I</td><td>V K</td></q>	GA TGT GTA GGA AA R C M R K	Y N V	DI	r G K	TYD	V R I	V K
·	550 56		580	59i		500	610	620
AAC TIT TAC AGT TIT (•	• • •		•	• •	•	•	•
TTG AAA ATG TCA AAA (GG ATG GTC AAA	TAG GGA TAT AAG T	TG TAT AGA T	AG GTA TAC	TA GAA TTG	TGA GAG ACC	GTT CTA TO	CG AAG TCT
				K3L				
•			670	686	•	90	700	710
GTG AGG ATA GTC AAA I	TTC TAT TTA CAT .	ATC TCG TAT TAG G	AA GAG CAT A	NG AGA CGG	EAA ATA ATG	TAG CGG GCG	TAN CCC G	TT GCT TAT
<h d="" f<="" p="" td="" y=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></h>								
720	730 740	750	760 7	70 71	30 79	90 80	0 8:	10
ACA AAA TGC AAG CAT A	ACG ATACAAACTT A	ACGGATATC GCGATAA	TGA AATAATTT	AT GATTATTI	T CGCTTTCAL	AT TTAACACA	C CCTCAAGA	ac
	ACG ATACAAACTT A	ACGGATATC GCGATAA	TGA AATAATTT	AT GATTATTI	T CGCTTTCAL	AT TTAACACA	C CCTCAAGA	ac
ACA ARA TGC ARG CAT A TGT TTT ACG TTC GTA T CC F A L MK3L 820 836	ACG ATACAAACTT A	ACGGATATC GCGATAA TGCCTATAG CGCTATT	TGA AATAATTT ACT TTATTAAA	AT GATTATTT TA CTAATAAA	T CGCTTTCA GA GCGAAAGT	AT TTAACACAA TA AATTGTGTT	C CCTCAAGA	AC TG
ACA ARA TEC ARG CAT I TGT TTT ACG TTC GTA I <c a="" f="" l="" m<="" td=""><td>ACG ATACAAACTT A</td><td>ACCGATATC GCGATAA TGCCTATAG CGCTATT 850 86</td><td>TGA AATAATITACT TTATTAAA</td><td>AT GATTATTT TA CTAATAAN 880 CAGATTGTTT</td><td>CT CGCTTCAL CA GCGAAAGT 890 CGTTTTCCCC</td><td>AT TTAACACAA FA AATTGTGTT 900 TTGGCGTATC</td><td>C CCTCAGA G GGAGTTCT 910 ACTAATTAAT</td><td>920</td></c>	ACG ATACAAACTT A	ACCGATATC GCGATAA TGCCTATAG CGCTATT 850 86	TGA AATAATITACT TTATTAAA	AT GATTATTT TA CTAATAAN 880 CAGATTGTTT	CT CGCTTCAL CA GCGAAAGT 890 CGTTTTCCCC	AT TTAACACAA FA AATTGTGTT 900 TTGGCGTATC	C CCTCAGA G GGAGTTCT 910 ACTAATTAAT	920
ACA ARA TGC ARG CAT I TGT TTT ACG TTC GTA I <c .<br="" a="" f="" l="" m=""></c>	ACG ATACAAACTT A	ACCGATATC GCGATAA TGCCTATAG CGCTATT 850 86	TGA AATAATITACT TTATTAAA	AT GATTATTT TA CTAATAAN 880 CAGATTGTTT	CT CGCTTCAL CA GCGAAAGT 890 CGTTTTCCCC	AT TTAACACAA FA AATTGTGTT 900 TTGGCGTATC	C CCTCAGA G GGAGTTCT 910 ACTAATTAAT	920
ACA ARA TEC ARG CAT I TGT TTT ACG TTC GTA I <c a="" f="" l="" m<="" td=""><td>ACG ATACAAACTT A RCC TATGTTTGAA T B40 T TTTAAGTATA GAA A AAATTCATAT CTT</td><td>ACGGATATC GCGATAA TGCCTATAG CGCTATT 850 86 ATAAAGAA AGCTCTAAT TAITTCTT TCGAGATTA</td><td>TIGA AATAATIT ACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTI</td><td>B80 CAGATTGTTT GTCTAACAAA</td><td>ET CGCTTTCAL GA GCGAAAGT 890 CGTTTTCCCC GCAAAGGGGG</td><td>TIGGCGTATC</td><td>C CCTCAAGA. G GGAGTTCT 910 ACTAATTAAT TGATTAATTA</td><td>P20 TAACCCGGGC ATTGGGCCCG</td></c>	ACG ATACAAACTT A RCC TATGTTTGAA T B40 T TTTAAGTATA GAA A AAATTCATAT CTT	ACGGATATC GCGATAA TGCCTATAG CGCTATT 850 86 ATAAAGAA AGCTCTAAT TAITTCTT TCGAGATTA	TIGA AATAATIT ACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTI	B80 CAGATTGTTT GTCTAACAAA	ET CGCTTTCAL GA GCGAAAGT 890 CGTTTTCCCC GCAAAGGGGG	TIGGCGTATC	C CCTCAAGA. G GGAGTTCT 910 ACTAATTAAT TGATTAATTA	P20 TAACCCGGGC ATTGGGCCCG
ACA ARA TEC ARG CAT I TGT TTT ACG TTC GTA T CC F A L M S20 830 CTTTGTATTT ATTTTCACT GARACATARA TRARAGTGAI 930 944 TGCAGCTCGA GGAATTCAAC	ACG ATACAAACTT A RCC TATGTTTGAA T B 40 T TITAAGTATA GAA A AAATTCATAT CTT 950 C TATATCGACA TAT	ACCGATATC GCGATAA TGCCTATAG CGCTATT 850 86 ATAAAGAA AGCTCTAAT TATTTCTT TCGAGATTA 960 97	TIGA AATAATITACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTI 0 980 T AACCATTACT	T GATTATTT TA CTAATAAN 880 CAGATTGTTT GTCTAACAAA 990 AACGTAGAAT	B90 CGTTTCCCC GCAAAAGGGG LOOO GTATAGGAAA	900 TTGGCGTATC AACCGCATAG 1010 AGATGTAACG	GGAACAGGGT	P20 TAACCCGGC ATTGGGCCCG 1030 TTGTTGATTC
ACA ARA TEC ARG CAT I TOT TITT ACG TITC GTA: CC F A L M B20 830 CTITGTATIT ATTITCACT GARACATARA TRANAGTGAI 930 940 TGCAGCTCGA GGARTTCAAG ACGTCGAGCT CCTTRAGTTC	ACG ATACAAACTT A TOC TATGTTTGAA T B 40 T TITAAGTATA GAA A AAATTCATAT CTT D 950 C TATATCGACA TAT G ATATAGCTGT ATA	ACCGATATC GCGATAA TGCCTATAG CGCTATT 850 86 ATAAAGAA AGCTCTAAT TATTTCTT TCGAGATTA 960 97	TGA AATAATTT ACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTT 0 980 T AACCATTACT	880 CAGATTGTTT GTCTAACAAA 990 AACGTAGAAT TTGCATCTTA	B90 CGTTTCCCC GCAAAAGGGG LOOO GTATAGGAAA	900 TTGGCGTATC AACCGCATAG 1010 AGATGTAACG TCTACATTGC	910 ACTANTANT TGATTANTTA 1020 GGAACAGGGT CCTTGTCCCA	P20 TAACCCGGGC ATTGGGCCCG 1030 TTGTTGATTC AACAACTAAG
ACA ARA TEC ARG CAT I TOT TITT ACC TIC GTA: CC F A L M R31 820 831 CTITGTATIT ATTITCACT GRARCATARA TARARGTGAI 930 944 TGCAGCTCGA GGAATTCAAC ACGTCGAGCT CCTTAAGTTC	ACG ATACAAACTT A TOC TATGTTTGAA T TTTAAGTATA GAA A AAATTCATAT CTT D 950 T TATATCGACA TAT G ATATAGCTGT ATA	ACCGATATC GCGATAA TGCCTATAG CGCTATT 850 86 ATAAAGAA AGCTCTAAT TATTTCTT TCGAGATTA 960 97 FTTCATTT GTATACACA AAAGTAAA CATATGGG	TGA AATAATTT ACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTT 0 980 T AACCATTACT A TTGGTAATGA	880 CAGATTGTTT GTCTAACAAA 990 AACGTAGAAT TTGCATCTTA	890 CGTTTCCCC GCAAAAGGGG 1000 GTATAGGAAG CATATCCTCC	900 TTGGCGTATC AACCGCATAG 1010 AGATGTAACG TCTACATTGC	910 ACTANTANT TGATTANTTA 1020 GGAACAGGGT CCTTGTCCCA	P20 TAACCCGGGC ATTGGGCCCG 1030 TTGTTGATTC AACAACTAAG
ACA ARA TEC ARG CAT I TOT TITT ACG TITC GTA: CC F A L M B20 830 CTITGTATIT ATTITCACT GARACATARA TRANAGTGAI 930 940 TGCAGCTCGA GGARTTCAAG ACGTCGAGCT CCTTRAGTTC	ACG ATACAAACTT A TOC TATGTTIGAA T 840 T TITAAGTATA GAA AAATTCATAT CTT 950 T TATATCGACA TAT ATATAGCTGT ATA 1060 AATTCTTCTGT TAA	SACGGATATC GCGATAA TGCCTATAG CGCTATT 850 86 ATAAAGAA AGCTCTAAT TATTTCTT TCGAGATTA 960 97 TTTCATTT GTATACACA AAAGTAAA CATATGTGT 1070 108	TGA AATAATTT ACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTT 0 980 T AACCATTACTA TTGGTAATGA 0 1090 T CTATTATGA	880 CAGATTGTTT GTCTAACAAA 990 AACGTAGAAT TTGCATCTTA 1100 TGCCAAGATA	B90 CGTTTCCCC GCANAGGG 1000 GTATAGGANG CATATCCTTC 1110 TCTATATATA	900 TTGGGGTATC AACCGCATAG 1010 AGATGTAACG TCTACATTGC TATTTTGTAA	910 ACTAATAAT TGATTAATTA 1020 GGAACAGGGT CCTTGTCCCA	920 TAACCCGGGC ATTGGGCCCG 1030 TTGTTGATTC AACAACTAAG 1140 ACTATGTGAT
ACA ARA TEC ARG CAT I TOT TITT ACG TTC GTA: CC F A L M 820 836 CTTTGTATIT ATTTTCACT GRARCATARA TRARAGTGRI 930 946 TGCAGCTCGA GGRATTCAAC ACGTCGAGCT CCTTRAGTTC 1040 1056 GCARACTATA CATACCATA CGTTTGATRA GATTATGTAT	840 TITTAAGTATA GAA AAAATTCATAT CIT 950 TATATCGACA TAT ATATAGCTAT ATA 1060 ATTCTTCTGT TAA	850 86 ATAAAGAA AGCTCTAAT AGTTCTT TCGAGATTA 960 97 ATTCATTT GTATACACA AAAGTAAA CATATGGI 1070 108 ATACGTCT TGCACGTAA ATAGCAGA ACGTGCATT	TGA AATAATTI ACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTI 0 980 T AACCATTACTI A TTGGTAATGA 0 1090 T CTATTATAGAA A GATAATACTI	880 CAGATTGTTT GTCTAACAAA 990 AACGTAGAAT TTGCATCTTA 1100 TCCCAAGATTA ACGGTTCTAT	890 CGTTTTCAC GCANAGGG CGTATAGGAAG GTATAGGAAG CATATCCTTC 1110 TCTATATAAT AGATATATTA	900 TTGGCGTATC AACCGCATAG 1010 AGATGTACG TCTACATTGC 1120 TATTTTGTAA ATAAAACATT	910 ACTANTANT TGATTANTTA 1020 GGAACAGGGT CCTTGTCCCA 1130 GATGATGTTA CTACTACAAT	P20 TAACCCGGGC ATTGGGCCCG 1030 TTGTTGATTC AACAACTAAG 1140 ACTATGTGAT TGATACACTA
ACA ARA TGC ARG CAT I TGT TTT ACG TTC GTA: CC F A L M 820 836 CTTTGTATTT ATTTTCACT GARACATARA TARARGTGAI 930 946 TGCAGCTCGA GGAATTCAAC ACGTCGAGCT CCTTAAGTTC 1040 1056 GCAAACTATT CTAATACATA CGTTTGATAA GATTATGTAT	ACG ATACAAACTT A TOC TATGTTIGAA T 840 T TITAAGTATA GAA AAATTCATAT CTT 950 C TATATCGACA TAT G ATATAGCTOT ATA 1060 A ATTCTTCTGT TAA T TAAGAAGACA ATT	BSO 86 ATABAGRA AGCTCTART 960 97 ATTCATTT GTATACACA ARAGTARA CATATGTGT 1070 108 ATACGTCT TGCACGTAR ATGCAGT 1180 119	TGA AATAATTT ACT TTATTAAA 0 870 T AATTAATGAA A TTAATTACTI 0 980 T AACCATTACTA TTGGTAATGA 0 1090 T CTATTATAGA GATAATACTI	880 CAGATTGTTT GTCTAACAAA 990 AACGTAGAAT TTUCATCTTA 1100 TGCCAAGATA ACGGTTCTAT	890 CGTTTCCCC GCANAGGGG 1000 GTATAGGANG CATATCCTTC 1110 TCTATATATA AGATATATTA	900 TTGGCGTATC AACCGCATAG 1010 AGATGTAACG TCTACATTGC TATTTTGTAA ATAAAACATT	910 ACTAATTAAT TGATTAATTA 1020 GGAACAGGGT CCTTGTCCCA 1130 GATGATGTTA CTACTACAAT	920 TAACCCGGGC ATTGGGCCCG 1030 TTGTTGATTC AACAACTAAG 1140 ACTATGTGAT TGATACACTA
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1590 1600 1610 1620 1630 1640 1650 1660 1670 1680 1690
ATAGTGACTA TITCATTCTC TGAAAATTGG TAACTCATTC TATATATGCT TTCCTTGTTG ATGAAGGATA GAATATACTC AATAGAATTT GTACCAACAA ACTGTTCTCT TATCACTGAT ARAGTARGAG ACTITITACC ATTGAGTANG ATATATACGA ARAGGARCANC TACTTCCTAT CTTATATGAG TTATCTTANA CATGGTTGTT TGACANGAGA 1740 1750 1760 1710 1720 1730 TATGAATCGT ATATCATCAT CTGAAATAAT CATGTAAGGC ATACATTTAA CAATTAGAGA CITGTCTCCT GTTATCAATA TACTATCTT GTGATAATTI ATGGTGAGG ATACTTAGCA TATAGTAGTA GACTITATTA GTACATTCCG TATGTAAATT GTTAATCTCT GAACAGAGGA CAATAGTTAT ATGATAAGAA CACTATTAAA TACACACTCC 1810 1820 1830 1840 1850 1860 1870 1880 1890 1900 1910

CARATTIGIC CACGITETT ARTITIGITA TAGTAGATAT CARATCCART GGAGCTACAG TICTIGGETT ARACAGATAT AGTITITEG GAACAAATIC TACAACATTA GTITAAACAG GIGCAAGAAA TITAAAACAAT ATCATCTATA GTITAGGITA CCTCGATGTC AAGAACCGAA TITGICTATA TCAAAAAGAC CTTGTITAAG ATGTIGTAAT 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020
TTATARAGGA CTTTGGGTAG ATAGTGGGA TGARATCCTA TTTTARTARA TGCTATGGCA TTGTCCTGT GCARATATC ARACGCTTTT GTGATAGTAT GGCATTCATT
ARTATTCCT GARACCCATC TATTCACCCT ACTTTAGGAT ARACTTART ACGATAGCGT ARCAGGAGCA CGTTTATAGG TTTGCGARAA CACTATCATA CCGTARAGTAR 2030 2040 2050 2060 2070 2080 2090 2100 2110 2120 2130
GTCTAGAAAC GCTCTACGAA TATCTGTGAC AGATATCATC TITAGAGAAT ATACTAGTCG CGTTAATAGT ACTACAATIT GTATTITTA ATCTATCTCA ATAAAAAAAT
CAGATCTTTG CGAGATGCTT ATAGACACTG TCTATAGTAG AAATCTCTTA TATGATCAGC GCAATTATCA TGATGTTAAA CATAAAAAAT TAGATAGAGT TATTTTTTTA 2180 2240 2250 2260 2270 2280 2290 2300 2310 2320

TIT AGC TGC ATT ATT TIT AGC ATC TGG TTT AGA TTT TGC ATC TGC CTT ATC GAA TAC TGT TGC GTC GAT GTC TAC ACA GGC ATA AAA TGT AAA TGG ACG TAA TAA TAA AAA TGG TAG AGC AAA TGT AAA AGG TAG ACG GAA TAG CTT ATG AGG CAG CTA CAG ATG TGT CCG TAT TTT ACA
K A A N N K A D R K S K G D A K D F V R G D I D V C A Y P T 2300 2330 2340 2350 2360 2370 2380 2390 2400 2410

AGG AGA GTT ACT AGG CCC AAC TGA TTC AAT ACG AAA AGA CCA ATC TCT CTT AGT TAT TTG GCA GTA CTC ATT AAT AAT GGT GAC AGG GTT
TCC TCT CAA TGA TCC GGG TTG ACT AAG TTA TGC TTT TCT GGT TAG AGA GAA TCA ATA AAC CCT CAT GAG TAA TTA TTA CCA CTG TCC CAA

<P S N S P G V S E I R F S W D R K T I Q C Y E N I I T V P N 2490 2540 2550 ATC TAT TAT GAC GTC AGC CAT AGC ATC AGC ATC CGG CTT ATC CGC CTC CGT TGT CAT AAA CCA ACG AGG AGG AAT ATC GTC GGA GCT GTA TAG ATA ATA CTG CAG TCG GTA TCG TAG TCG TAG GCC GAA TAG GCG GAG GCA ACA GTA TTT GGT TGC TCC TCC TTA TAG CAG CCT CGA CAT CD I I V D A M A D A D P K D A B T T M P W R P P I D D S S Y 2600 2610 2620 2630 2640 2650 2660 2670 2680

CAC CAT AGC ACT ACG TTG AAG ATC GTA CAG AGC TTT ATT AAC TTC TCG CTT CTC CAT ATT AAG TTG TCT AGT TAG TTG TGC AGC AGT AGC GTG GTA TCG TGA TGC AAC TTC TAG CAT GTC TCG AAA TAA TTG AAG AGC GAA GAG GTA TAA TTC AAC AGA TCA ATC AAC AGC TCG TCA TCG CV M A S R Q L D Y L A K N V E R K E M N L Q R T L Q A A T A

E3L E3L 2780 2790 2800 2810 2820 2830 2840 2850 2860 CTARCACARC CAGCARTARA ACTGRACCTA CITTATCATT TITITATICA TCATCCTCTG GTGGTTCGTC GTTTCTATCG ARTGIAGCTC TGATTRACCC GTCATCTATA GATTGTGTTG GTCGTTATTT TGACTTGGAT GRARTAGTAR ARRATARGT AGTAGGAGAC CACCARGCAG CARGATAGC TTACATCGAG ACTARTTGGG CAGTAGATAT GOTGATGCTG GITCTGGAGA TICTGGAGGA GATGGATTAT TATCTGGAAG AATCTCTGTI ATTTCCTTGT TITCATGTAT CGATTGCGTT GTAACATTAA GATTGCGAAA CCACTACGAC CAAGACCTCT AAGACCTCCT CTACCTAATA ATAGACCTTC TTAGAGACAA TAAAGGAACA AAAGTACATA GCTAACGCAA CATTGTAATT CTAACGCTTT 3040 3050 3020 3030 TECTCTARAT TITEGGAGGET TARAGIGITE TITEGARIET CTACACGCGT GICTARCIAG TEGAGGITEG TEAGCTECTE TAGTITEGARI CATCATEGGE GIAGIATICE ACCAGAGATITA ARCCUTECGA ATTICACARC ARACGITAGA GATGTGCGCA CAGATTGATE ACCTCCARGE AGTCGACGAG ATCARACTIA GIAGIAGCCG CATCATARAG

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3110	3120	3130	3140	3150	3160	3170	3180	3190	3200	3210
TACTTTTACA	GTTAGGACAC	GGTGTATTGT	ATTTCTCGTC	GAGAACGTTA	AAATAATOGT	TGTAACTCAC	ATCCTTTATT	TTATCTATAT	TGTATTCTAC	TCCTTTCTTA
ATGAAAATGT	CAATCCTGTG	CCACATAACA	TAAAGAGCAG	CTCTTGCAAT	TTTATTAGCA	ACATTGAGTG	TAGGAAATAA	AATAGATATA	ACATAAGATG	AGGAAAGAAT
3220	3230	3240	1750	2260	2220	. 3280	3300	2200	2210	2220
		• •						• •		• •
									TAAATCATAT ATTTAGTATA	
-										
. 3330	3340	3350	3360	3370	3380	3390	3400	3410	3420	3430
									GCAAATACAG CGTTTATGTC	
				GATIACTICA	11CHIGHCGA	1117070011	· · · · · · · · · · · · · · · · · · ·	IIIACIAIGI	COILIMIGIC	dond!rou!!
3440	- 3450	3460			3490	3500	3510	3520	3530	3540
CGAATTACCT		• •	CTTATTACAA						* *	
GCTTAATGGA	AAATTAAAA	AGTCTGTGTG	GAATAATGTT	TGATTGATTC	AGTCTACTAC	TCTTTCATTT	ATATTTAAAT	TGAATACCCA	TATTATATTA	TTTCTAAGTA
3550	3560	3570			3600				3640	
									ATTAAAATAG	
CINIANIIAI	INVITABLE	OCIACAAIIA	ICIGAAIAAG	GIAGIIGGG	AAG111GGAA	AGACCTATAA	TATTTTATGG	TCAATTACTA	TAATTTTATC	TAACAAATTC
3660	3670	3680	3690	3700	3710	3720	3730	3740	3750	3760
AGATGTAAAT									GAATTTTTTA	
									CTTAAAAAAT	
•										
3770	3780	3790	3800	3810	3820	3830	3840	3850	3860	3870
	• •									
CTGTTATATG	TATCAACAAT	AÇAGGCAGAT	CTATGGTTAT	GGTAAAACAC	TGTAACGGGA	AGCAGCATTC	TATGGTAACT	GCCTATGTT	TAATAGCCAG	ATCATTTTAC
CTGTTATATG GACAATATAC	TATCAACAAT ATAGITGITA	AÇAGGCAGAT	CTATGGITAT GATACCAATA	GGTAAAACAC	TGTAACGGGA	AGCAGCATTC	TATGGTAACT	GCCTATGTT	TAATAGCCAG ATTATCGGTC	ATCATTTTAC
CTGTTATATG GACAATATAC 3880	ATAGTTGTTA	ACAGGCAGAT TGTCCGTCTA	GATACCAATA	GGTAAAACAC CCATTTTGTG	TGTAACGGGA ACATTGCCCT	AGCAGCATTC TCGTCGTAAG	TATGGTAACT ATACCATTGA	GGCCTATGTT CCGGATACAA	ATTATCGGTC	ATCATTITAC TAGTAAAATG
GACAATATAC 3880	3890	ACAGGCAGAT TGTCCGTCTA	GATACCAATA 3910	GGTAAAACAC CCATTTTGTG	TGTAACGGGA ACATTGCCCT	AGCAGCATTC TCGTCGTAAG	TATGGTAACT ATACCATTGA	GGCCTATGTT CCGGATACAA	3970	ATCATTITAC TAGTAAAATG
GACAATATAC 3880 TCTATAAACA	3890 TTTTACCACA	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA	3910 TCCTCTAGAT	GGTAAAACAC CCATTTTGTG 3920 ATTTAATATT	TGTAACGGA ACATTGCCCT 3930 ATATCTAACA	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA	TATGGTAACT ATACCATTGA 3950 AATTTAACGA	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA	ATTATCGGTC	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA
GACAATATAC 3880 TCTATAAACA	3890 TTTTACCACA	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA	3910 TCCTCTAGAT	GGTAAAACAC CCATTTTGTG 3920 ATTTAATATT	TGTAACGGA ACATTGCCCT 3930 ATATCTAACA	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT	3970 GAAGTATITT	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA
GACAATATAC 3880 TCTATAAACA	3890 TTTTACCACA	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA	GATACCAATA 3910 TCCTCTAGAT AGGAGATCTA	GGTAAAACAC CCATTTIGTG 3920 ATTTAATATT TAAATTATAA	TGTAACGGA ACATTGCCT 3930 ATATCTAACA TATAGATTGT	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT	3970 GAAGTATTTT CTTCATAAAA	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA GATGATTAIT
3880 TCTATABACA AGATATTIGT 3990 AGATABAGAT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA	3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA	GGTAAAACAC CCATTTGTG 3920 ATTTAATATT TAAATTATAA 4030 GATAATCATT	TGTAACGGA ACATTGCCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGC	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070	3970 GAAGTATTTT CTTCATAAAA 4080 CGTGGAAGCT	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA GATGATTATT 4090 TITATATATAA
3880 TCTATABACA AGATATTIGT 3990 AGATABAGAT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA	3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA	GGTAAAACAC CCATTTGTG 3920 ATTTAATATT TAAATTATAA 4030 GATAATCATT	TGTAACGGA ACATTGCCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGC	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070	3970 GAAGTATITT CTTCATAAAA	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA GATGATTATT 4090 TITATATATAA
3880 TCTATABACA AGATATTIGT 3990 AGATABAGAT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT	3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA ATACTTTCTT	GOTANACAC CCATTTGTG 3920 ATTTANATATT TANATTATAA 4030 GATANATCATT CTATTAGTAA	TGTAACGGGA ACATTGCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGC ATCATCATCG	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG CTTTCTTTAC	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTTT	3970 GAAGTATITT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA	ATCATTTAC TAGTAAAATG 3980 CTACTAATAA GATGATTATT 4090 TITATATATAA AAATATAATT
3880 TCTATARACA AGATATITGT 3990 AGATARAGAT TCTATITCTA	3890 TTITACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120	3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA ATACTTTCTT	GGTAAAACAC CCATTTGTG 3920 ATTTAATATT TAAATTATAA 4030 GATAATCATT CTATTAGTAA 4140	TGTAACGGAA ACATTGCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGC ATCATCATCG 4150	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC 4160	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG CTTTCTTTAC	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTT 4180	3970 GAAGTATITT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA GATGATTATT 4090 TITATATATAA AAATATAAATT
3880 TCTATARACA AGATATTTGT 3990 AGATARAGAT TCTATTTCTA 4100 ATAGCATATT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAT	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA	3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA ATACTTTCTT 4130 GACTTAGTAT	GOTANACAC CCATTTGTG 3920 ATTTANTATT TANATTATAA 4030 GATAATCATT CTATTAGTAA 4140 AACAAAACAG	TGTAACGGAA ACATTGCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGCA ATCATCATCG 4150 TTAAATGCCA	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC ATGATTATAC	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG CTTTCTTTAC 4170 TATATTTCAT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTTT 4180 CATAACAGTA	3970 GAAGTATITT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA GATGATTATT 4090 TITATATATAA AAATATAATT 4200 CAGTGATATA
3880 TCTATARACA AGATATTTGT 3990 AGATARAGAT TCTATTTCTA 4100 ATAGCATATT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAT	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA	3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA ATACTTTCTT 4130 GACTTAGTAT	GOTANACAC CCATTTGTG 3920 ATTTANTATT TANATTATAA 4030 GATAATCATT CTATTAGTAA 4140 AACAAAACAG	TGTAACGGAA ACATTGCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGCA ATCATCATCG 4150 TTAAATGCCA	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC ATGATTATAC	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG CTTTCTTTAC 4170 TATATTTCAT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTTT 4180 CATAACAGTA	3970 GAAGTATITT CITCATAAAA 4080 CGTGGAAGCT GCACCTTCGA 4190 GTACATTAAT	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA GATGATTATT 4090 TITATATATAA AAATATAATT 4200 CAGTGATATA
3880 TCTATARACA AGATATTTGT 3990 AGATARAGAT TCTATTTCTA 4100 ATAGCATATT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAT	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA AATTTTAGAT	GATACCAATA 3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA ATACTITCTT 4130 GACTTAGTAT CTGAATCATA	3920 ATTTAATATT TAAATTATAA 4030 GATAATCATT CTATTAGTAA 4140 AACAAAACAG TTGTTTTGTC	TGTAACGGTA ACATTGCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGC ATCATCATCG TTAAATGCCA AATTTACGGT	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC 4160 ATATCGATTC TATAGCTAAG	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG CTITCTTTAC 4170 TATATTTCAT ATATATCAT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTTT 4180 CATAACAGTA GTATTGTCAT	3970 GAAGTATITT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA 4190 GTACATTAAT CATGTAATTA	3980 CTACTAATAA GATGATTATT 4090 TITATATTAA AAATATAATT 4200 CAGTGATATA GTCACTATAT
3880 TCTATARACA AGATATTTGT 3990 AGATARAGAT TCTATTCTA 4100 ATAGCATATT TATCGTATAA 4210 CTGARACGAT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAAT TGATCTTCTA 4220 CTACAGACTC	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA AATTTTAGAT 4230 AACTATGCAA	3910 TCCTCTAGAT AGGAGATCTA 4020 TATCAAAGAA ATACTITCTT 4130 GACTTAGTAT CTGAATCATA 4240	GOTAMACAC CCATTTIGTG 3920 ATTTAMATATT TAMATTATAA 4030 GATAMACATT CTATTAGTAA 4140 AACAMACAG TTGTTTTGTC 4250 ATATGCCAAT	TGTAACGGAA ACATTGCCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGCA ATCATCATCA 4150 TTAAATGCCA AATTTACGGT 4260	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC 4160 ATATCGATTC TATAGCTAAG	TATGTAACTA 3950 AATTTAAGA TTAAATTGCT 4060 GAAAGAAATG CTTTCTTTAC 4170 TATATTTCAT ATATAAAGTA ATATAAAGTA 4280 TAGAACTAAA	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTT 4180 CATAACAGTA GTATTGTCAT 4290 ACGTTCTACC	3970 GAAGTATTT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA 4190 GTACATTAAT CATGTAATTA 4300 AATACTAAAAA	ATCATTATAA AAATATAATT 4090 TITATATTAA AAATATAATT 4200 CAGTGATATA GTCACTATAT 4310 ATAGGATACG
3880 TCTATARACA AGATATTTGT 3990 AGATARAGAT TCTATTCTA 4100 ATAGCATATT TATCGTATAA 4210 CTGARACGAT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAAT TGATCTTCTA 4220 CTACAGACTC	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA AATTTTAGAT 4230 AACTATGCAA	3910 TCCTCTAGAT AGGAGATCTA 4020 TATCAAAGAA ATACTITCTT 4130 GACTTAGTAT CTGAATCATA 4240	GOTAMACAC CCATTTIGTG 3920 ATTTAMATATT TAMATTATAA 4030 GATAMACATT CTATTAGTAA 4140 AACAMACAG TTGTTTTGTC 4250 ATATGCCAAT	TGTAACGGAA ACATTGCCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGCA ATCATCATCA 4150 TTAAATGCCA AATTTACGGT 4260	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC 4160 ATATCGATTC TATAGCTAAG	TATGTAACTA 3950 AATTTAAGA TTAAATTGCT 4060 GAAAGAAATG CTTTCTTTAC 4170 TATATTTCAT ATATAAAGTA ATATAAAGTA 4280 TAGAACTAAA	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTT 4180 CATAACAGTA GTATTGTCAT 4290 ACGTTCTACC	3970 GAAGTATITT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA 4190 GTACATTAAT CATGTAATTA	ATCATTATAA AAATATAATT 4090 TITATATTAA AAATATAATT 4200 CAGTGATATA GTCACTATAT 4310 ATAGGATACG
3880 TCTATARACA AGATATTTGT 3990 AGATARAGAT TCTATTCTA 4100 ATAGCATATT TATCGTATAA 4210 CTGARACGAT	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAAT TGATCTTCTA 4220 CTACAGACTC	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA AATTTTAGAT 4230 AACTATGCAA	3910 TCCTCTAGAT AGGAGATCTA 4020 TATCAAAGAA ATACTITCTT 4130 GACTTAGTAT CTGAATCATA 4240	GOTAMACAC CCATTTIGTG 3920 ATTTAMATATT TAMATTATAA 4030 GATAMACATT CTATTAGTAA 4140 AACAMACAG TTGTTTTGTC 4250 ATATGCCAAT	TGTAACGGAA ACATTGCCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGCA ATCATCATCA 4150 TTAAATGCCA AATTTACGGT 4260	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC 4160 ATATCGATTC TATAGCTAAG 4270 ATTTTAACTT TAAAAATTGAA	TATGTAACT ATACCATTGA 3950 AATTTAAGGA TTAAATTGCT 4060 GAAAGAAATG CTITCTITAC 4170 TATATTTCAT ATATAAAGTA ATATAAAGTA ATCTTGATTT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTT 4180 CATAACAGTA GTATTGTCAT 4290 ACGTTCTACC TGCAAGATGG	3970 GAAGTATTT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA 4190 GTACATTAAT CATGTAATTA 4300 AATACTAAAAA	ATCATTATAA AAATATAATT 4090 TITATATTAA AAATATAATT 4200 CAGTGATATA GTCACTATAT 4310 ATAGGATACG
GACAATATAC 3880 TCTATAAACA AGATATTTGT 3990 AGATAAAGAT TCTATTTCTA 4100 ATAGCATATT TATCGTATAA 4210 CTGAAACGAT GACTTTGCTA	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAT TGATCTTCTA 4220 CTACAGACTC GATGTCTGAG	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA AATTTTAGAT AATTTTAGAT AATTTTAGAT TGATACGTT 4340	GATACCAATA 3910 TCCTCTAGAT AGGAGATCTA 4020 TATCAAAGAA ATACTITCTT 4130 GACTIAGTAT CTGAATCATA 4240 GGAATAAGCA CCTTATTCGT	GOTAMACAC CCATTTIGTG 3920 ATTTAMATATT TAMATTATAA 4030 GATAMICATT CTATTAGTAA 4140 AACAMACAG TTGTTTTGTC 4250 ATATGCCAAT TATACGGTTA 4360	TGTANCGGAA ACATTGCCCT 3930 ATATCTANCA TATAGATTGT 4040 TAGTAGTAGCA ATCATCATCG 4150 TTANANTGCCA AATTTACGGT 4260 TANTGTCTANT ATACAGATTA ATACAGATTA 4370	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC 4160 ATATCGATTC TATAGCTAAG 4270 ATTTTAACTT TAAAATTGAA 4380	TATGTAACTA 3950 AATTTAAGA TTAAATTGCT 4060 GAAAGAAATG CTITCTITAC 4170 TATATTTCAT ATATATAAGTA 4280 TAGAACTAAA ATCTTGATTTT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTT 4180 CATAACAGTA GTATTGTCAT 4290 ACGTTCTACC TGCAAGATGG	3970 GAAGTATTT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA 4190 GTACATTAAT CATGTAATTA 4300 AATACTAAAA TTATGATTTT	ATCATTATAA AAATATAATT 4090 TITATATTAA AAATATAATT 4200 CAGTGATATA GTCACTATAT 4310 ATAGGATACG TATCCTATGC
3880 TCTATARACA AGATATTTGT 3990 AGATARAGAT TCTATTCTA 4100 ATAGCATATT TATCGTATAA 4210 CTGARACGAT GACTTTGCTA	3890 TTTTACCACA AAAATGGTGT 4000 AGTCTATCTT TCAGATAGAA 4110 ACTAGAAGAT TGATCTTCTA 4220 CTACAGACTC GATGTCTGAG 4330	ACAGGCAGAT TGTCCGTCTA 3900 AATAATAGGA TTATTATCCT 4010 ATCTACAAGA TAGATGTTCT 4120 TTAAAATCTA AATTTTAGAT 4230 AACTATGCAA ATTGATACGTT 4340 CAATAAATAG	3910 TCCTCTAGAT AGGAGATCTA 4020 TATGAAAGAA ATACTTTCTT 4130 GACTTAGTAT CTGAATCATA 4240 GGAATAAGCA CCTTATTCGT 4350 TAAGGATCTTA	GGTAAAACAC CCATTTGTG 3920 ATTTAATATT TAAATTATAA 4030 GATAATCATT CTATTAGTAA 4140 AACAAAACAG TTGTTTTGTC 4250 ATATGCCAAT TATACGGTTA 4360 GAAGAAATAC	TGTAACGGAA ACATTGCCCT 3930 ATATCTAACA TATAGATTGT 4040 TAGTAGTAGCA ATCATCATCG 4150 TTAAATGCCA AATTTACGGT 4260 TATGTCTAATA ATACAGATTA 4370	AGCAGCATTC TCGTCGTAAG 3940 ACAACAAAAA TGTTGTTTT 4050 TACTAATATG ATGATTATAC 4160 ATATCGATTC TATAGCTAAG 4270 ATTTTAACTT TAAAATTGAA 4380 ACCTTCGGAG	TATGGTAACT ATACCATTGA 3950 AATTTAACGA TTAAATTGCT 4060 GAAAGAAATG CTTTCTTTAC 4170 TATATTTCAT ATATATAAAGTA 4280 TAGAACTAAA ATCTTGATTT 4390 GAAAGAACTT	GGCCTATGTT CCGGATACAA 3960 TGTATGGCCA ACATACCGGT 4070 TATACAAAAA ATATGTTTT 4180 CATAACAGTA GTATTGTCAT 4290 ACGTTCTACC TGCAAGATGG	3970 GAAGTATTT CTTCATAAAA 4080 CGTGGAAGCT GCACCTTCGA 4190 GTACATTAAT CATGTAATTA 4300 AATACTAAAAA	ATCATTITAC TAGTAAAATG 3980 CTACTAATAA GATGATTATT 4090 TITATATTAA AAATATAATT 4200 CAGTGATATA GTCACTATAT 4310 ATAGGATACG TATCCTATGC 4420 CAAACTTGTA

4430 TITATGAAGG TACC AAATACTTCC ATGG